

**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of	)	
	)	
AT&T Mobility Spectrum LLC; BellSouth	)	
Mobile Data, Inc.; New Cingular Wireless	)	WT Docket No. 16-181
PCS, LLC; and SBC Telecom, Inc.	)	
	)	
Petition for Limited Waiver of Interim	)	
Performance Requirement for 2.3 GHz	)	
WCS C and D Block Licenses	)	

**COMMENTS OF PUBLIC KNOWLEDGE**

**I. INTRODUCTION & SUMMARY**

Public Knowledge files these Comments in response to the Federal Communications Commission’s (“Commission” or “FCC”) Public Notice in the above-captioned proceeding.<sup>1</sup> Modifying AT&T’s performance requirements for the WCS C and D block licenses, as outlined in AT&T’s Supplement to its Petition for limited waiver of the interim performance requirements (“Supplement”),<sup>2</sup> would likely serve the public interest, particularly given the long

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<sup>1</sup> See Wireless Telecommunications Bureau Seeks Comment Regarding Request for Relief of Certain WCS Construction Requirements, WT Docket No. 16-181, *Public Notice*, DA 16-606 (rel. June 2, 2016).

<sup>2</sup> See Supplement to Petition for Limited Waiver of Interim Performance Requirement for WCS C and D Block Licenses of AT&T Mobility Spectrum LLC, BellSouth Mobile Data, Inc., New Cingular Wireless PCS, LLC, and SBC Telecom, Inc.; WT Docket No. 16-181; at 2 (filed June 2, 2016) (“Supplement”).

history of interference issues and disputes in the WCS band.<sup>3</sup> However, AT&T's Petition for Waiver ("Petition") should not be granted without conditions. To ensure that the waiver best serves the public interest, the Commission should permit non-interfering unlicensed access to unused WCS C and D block spectrum on a use-or-share basis. The Commission should also adopt AT&T's proposal requiring the submission of semiannual reports to the Commission detailing its deployment progress.<sup>4</sup>

## **II. THE COMMISSION SHOULD GRANT AT&T'S PETITION.**

### **A. Granting AT&T's Petition Will Likely Serve the Public Interest.**

The Commission may waive its rules "for good cause shown, in whole or in part, at any time."<sup>5</sup> In addition, the Commission may waive its rules if the "underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and...grant of the requested waiver would be in the public interest" or "[i]n view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative."<sup>6</sup>

In the above-captioned proceeding, there is good cause to grant AT&T's Petition, and doing so would serve the public interest, particularly in light of the troubled history of the WCS band. AT&T appears to have dedicated substantial time and resources to gain an understanding of the unique interference issues that have plagued the WCS band and coordinating with Satellite

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<sup>3</sup> See e.g., Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band; WT Docket No. 07-293, IB Docket No. 95-91; *Order on Reconsideration*; 27 FCC Rcd 13651, 13655-62 ¶¶ 7-19 (2012) ("*WCS Order on Reconsideration*"); *Id.* at 13746, Statement of Chairman Julius Genachowski ("The WCS band is a long-troubled band that has evaded easy answers for 15 years.").

<sup>4</sup> Supplement at 2.

<sup>5</sup> 47 C.F.R. § 1.3.

<sup>6</sup> 47 C.F.R. § 1.925(b)(3)(i)-(ii).

Digital Audio Radio Service and Aeronautics Mobile Telemetry users to facilitate deployment on WCS C & D blocks.<sup>7</sup> As a result, AT&T will likely be able to deploy its smart grid service on this spectrum faster than a new license holder will. Therefore, granting the Petition will enhance the likelihood that the spectrum will be put to productive use as soon as possible. If the Commission refuses to grant AT&T's Petition, it risks increasing the amount of time the spectrum remains unused, frustrating the purpose of the performance requirements.

Additionally, granting the Petition will likely serve the public interest. Consumers stand to reap benefits from a successful deployment of AT&T's smart grid solution by gaining greater access to the information and tools they need to control their energy consumption, allowing consumers to more efficiently use energy and save money.<sup>10</sup>

**B. AT&T Has Made a Good Faith Effort to Meet Its Performance Requirements.**

In its petition, AT&T extensively details the engineering and interference-related challenges it has faced employing its WCS C and D Block spectrum.<sup>11</sup> These challenges are consistent with the issues that have long plagued operations in the WCS band.<sup>12</sup> As AT&T explains, restrictions on its use of the band and interference issues with neighboring users have made it difficult to develop a productive use for the C and D blocks.<sup>13</sup>

Despite these challenges, AT&T and Nokia appear to have made substantial progress toward finding an innovative and productive use of the WCS C and D block spectrum for smart

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<sup>7</sup> See Petition for Limited Waiver of Interim Performance Requirement for WCS C and D Block Licenses of AT&T Mobility Spectrum LLC, BellSouth Mobile Data, Inc., New Cingular Wireless PCS, LLC, and SBC Telecom, Inc.; WT Docket No. 16-181; at 21-23 (filed June 2, 2016) ("Petition").

<sup>10</sup> See U.S. Department of Energy, Office of Electricity Delivery & Energy Reliability, What Is the Smart Grid?, [https://www.smartgrid.gov/the\\_smart\\_grid/smart\\_grid.html](https://www.smartgrid.gov/the_smart_grid/smart_grid.html) (last visited June 20, 2016).

<sup>11</sup> See Petition at 7-9.

<sup>12</sup> See *WCS Order on Reconsideration* at 13655-62 ¶¶ 7-19.

<sup>13</sup> 47 C.F.R. §§ 27.72-27.73.

grid applications.<sup>14</sup> Earlier this year, AT&T and Nokia unveiled their smart grid proposal to the public,<sup>15</sup> and as the Supplement details, the companies have met individually with twenty utilities and recently signed a memorandum of understanding with a mid-sized, investor-owned utility to develop a business case for the utility to invest in the solution.<sup>16</sup> AT&T has not only worked to develop an effect use of its spectrum, but also taken concrete steps to deploy its solution.

### **C. Granting AT&T’s Petition Can Enhance Smart Grid Deployment.**

Smart grid deployment is a national priority. Seven years ago, Congress directed the Commission to focus on using broadband infrastructure to increase “energy independence and efficiency” as part of the National Broadband Plan.<sup>19</sup> The Obama Administration recently highlighted the nation’s need for smart grids by including them as a component of its Smart Cities Initiative.<sup>20</sup> Further, according to the U.S. Department of Energy, the smart grid “represents an unprecedented opportunity to move the energy industry into a new era of reliability, availability, and efficiency that will contribute to our economic and environmental health.”<sup>21</sup>

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<sup>14</sup> See Petition at 13-18.

<sup>15</sup> Press Release, AT&T Inc. & Nokia, AT&T and Nokia Introduce a New 4G LTE Wireless Network Solution for Utilities (Feb. 9, 2016), <http://www.prnewswire.com/news-releases/att-and-nokia-introduce-a-new-4g-lte-wireless-network-solution-for-utilities-300217391.html> (“AT&T and Nokia Press Release”).

<sup>16</sup> Supplement at 3.

<sup>19</sup> American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 6001(k)(2)(D), 123 Stat. 115, 516.

<sup>20</sup> Press Release, White House, Fact Sheet: Administration Announces New “Smart Cities” Initiative To Help Local Communities Tackle Local Challenges and Improve City Services (Sept. 14, 2015), <https://www.whitehouse.gov/the-press-office/2015/09/14/fact-sheet-administration-announces-new-smart-cities-initiative-help> (describing the Department of Energy’s Smart Grid Integration Challenge for Cities);

<sup>21</sup> Office of Electricity Delivery & Energy Reliability, U.S. Dep’t of Energy, What Is the Smart Grid?, [https://www.smartgrid.gov/the\\_smart\\_grid/smart\\_grid.html](https://www.smartgrid.gov/the_smart_grid/smart_grid.html) (last visited June. 20, 2016).

The Commission has concurred that deploying a national smart grid solution is a priority.<sup>22</sup> Yet, smart grid deployment has been limited. Utilities cite a lack of licensed spectrum available for use in smart grid networks as a main obstacle to achieving this national priority.<sup>23</sup> AT&T's proposed use for the WCS C and D block spectrum has the potential to contribute to achieving the goal of more widespread smart grid deployment.

Considering the potential benefits of AT&T's proposed smart grid network, its good faith effort to find a productive use for the spectrum, the considerable technical and engineering challenges posed by the restrictions on the WCS spectrum, the extreme likelihood that another licensee would face the same challenges, and that the Commission's failure to grant the Petition would almost certainly cause even further delay in putting the spectrum to productive use, there is good cause for the Commission to grant AT&T's Petition, with conditions, and doing so will likely serve the public interest.

### **III. THE COMMISSION SHOULD MAKE UNUSED WCS C AND D BLOCK FREQUENCIES AVAILABLE FOR UNLICENSED USE AND REQUIRE AT&T TO COMPLY WITH SEMIANNUAL REPORTING REQUIREMENTS.**

#### **A. The Commission Should Make Unused WCS C And D Block Frequencies Available For Unlicensed Use.**

To ensure granting the Petition furthers the public interest, the Commission should adopt a use-or-share condition that would permit unlicensed users to operate on a non-interfering basis on any unused frequencies and in geographic areas where AT&T has not yet licensed to local utilities. Allowing non-interfering, unlicensed use of the WCS C and D block frequencies on a

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<sup>22</sup> In the National Broadband Plan, the Commission stated that developing and deploying a smart grid "is a national priority" that "will increase the reliability of the electric grid." Federal Communications Commission, *Connecting America: The National Broadband Plan* 249 (2010).

<sup>23</sup> Utilities Telecom Council, *The Utility Spectrum Crisis: A Critical Need To Enable Smart Grids* at 7, 15, 18 (Jan. 2009), <http://www.utc.org/utility-spectrum-crisis-critical-need-enable-smart-grids> ("UTC Spectrum Crisis Paper").

use-or-share basis will ensure there are productive uses of the band even if AT&T's proposed smart grid solution is delayed, fails to deploy, or fails to reach much of the WCS C and D block license area.

Unlicensed spectrum plays a key role mobile connectivity. In 2014, U.S. economic activity related to unlicensed spectrum was valued at more than \$220 billion annually.<sup>24</sup>

Unlicensed spectrum is critical for a variety of wireless technologies, including Wi-Fi, Bluetooth, near field communication for mobile payments, and other uses such as wireless medical devices and public safety applications.

The need for more unlicensed spectrum and its importance to the U.S. economy will only continue to grow. Cisco reports that by 2020, the IoT will connect 50 billion devices, with an economic impact estimated at \$19 trillion.<sup>25</sup> Similarly, McKinsey has estimated that IoT applications could have an economic impact of up to \$33 trillion by 2025.<sup>26</sup> The vast majority of IoT traffic travels over unlicensed spectrum, and that will continue to be true.<sup>27</sup> Without significantly more unlicensed spectrum, existing unlicensed frequencies will become overly

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<sup>24</sup> Telecom Advisory Services, LLC, *Assessment of the Economic Value of Unlicensed Spectrum in the United States 73* (2014), *available at* <http://www.wififorward.org/wp-content/uploads/2014/01/Value-of-Unlicensed-Spectrum-to-the-US-Economy-Full-Report.pdf>.

<sup>25</sup> Olga Kharif, *Cisco CEO Pegs Internet of Things as \$19 Trillion Market*, *Bloomberg Business*, Jan. 8, 2014, *available at* <http://www.bloomberg.com/news/articles/2014-01-08/cisco-ceo-pegs-internet-of-things-as-19-trillion-market>.

<sup>26</sup> Mohana Ravindranath, *Cisco CEO at CES 2014: Internet of Things is a \$19 trillion opportunity*, *Wash. Post*, Jan. 8, 2014, *available at* [http://www.washingtonpost.com/business/on-it/cisco-ceo-at-ces-2014-internet-of-things-is-a-19-trillion-opportunity/2014/01/08/8d456fba-789b-11e3-8963-b4b654bcc9b2\\_story.html](http://www.washingtonpost.com/business/on-it/cisco-ceo-at-ces-2014-internet-of-things-is-a-19-trillion-opportunity/2014/01/08/8d456fba-789b-11e3-8963-b4b654bcc9b2_story.html).

<sup>27</sup> Raymond James & Associates; *The Internet of Things: A Study in Hype, Reality, Disruption, and Growth 1* (2014); *Wifi Forward, Playing by the Rules: The Success of Unlicensed Spectrum*, <http://www.wififorward.org/playing-by-the-rules-the-success-of-unlicensed-spectrum/> (last visited May 22, 2016).

congested, harming both the IoT and licensed mobile networks that rely on unlicensed bands to offload traffic.<sup>28</sup>

Additional unlicensed spectrum is necessary to fully realize the economic promise of a connected world, and the Commission can supplement its ongoing efforts to designate more spectrum for unlicensed use by conditioning its grant of AT&T's Petition with a use-or-share requirement. Further, such a condition would be consistent with the FCC's use-or-share proposal in the *Spectrum Frontiers Notice of Proposed Rulemaking*, designed to ensure spectrum is put to productive use.<sup>29</sup>

**B. The Commission Should Require AT&T to Comply With Semiannual Reporting Requirements.**

According to AT&T's petition, AT&T and Nokia plan to deploy trial systems for utilities in at least four Regional Economic Area Groupings to demonstrate the solution to them and other potential customers in the fourth quarter of 2016 or in 2017.<sup>30</sup> To safeguard the public interest, the Commission should grant the Petition with a requirement that AT&T keep the FCC abreast of its deployment progress. AT&T's Supplement proposes that the Commission require it file semiannual reports, beginning as of January 31, 2018, to detail its deployment progress.<sup>31</sup> Given that the original interim performance deadline was March 13, 2017, the Commission should

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<sup>28</sup> See e.g., Emily Hong, *We Need More Radio Frequency Spectrum Than Ever. Why Is this Band Going Largely Unused?*, Slate, Jan. 21, 2016, [http://www.slate.com/blogs/future\\_tense/2016/01/21/why\\_is\\_this\\_spectrum\\_band\\_going\\_largely\\_unused.html](http://www.slate.com/blogs/future_tense/2016/01/21/why_is_this_spectrum_band_going_largely_unused.html); Engine, *Why Startups Need More Unlicensed Spectrum, And How They Can Get It*, <http://www.engine.is/news/issues/infrastructure/why-startups-need-more-unlicensed-spectrum-and-how-they-can-get-it/6816> (Apr. 29, 2016); Broadcom, *Why Unlicensed Spectrum Allocation is Critical to the Next Wave of Innovation*, <http://www.broadcom.com/blog/wireless-technology/why-unlicensed-spectrum-allocation-is-critical-to-the-next-wave-of-innovation/> (July 15, 2014).

<sup>29</sup> See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*; GN Docket No. 14-177, *et al.*; *Notice of Proposed Rulemaking*; 30 FCC Rcd 11878, 11941 ¶¶ 215-16 (2015).

<sup>30</sup> See Petition at 18.

<sup>31</sup> Supplement at 2.

require the initial report be filed by June 30, 2017. The Commission should include this requirement if it grants the Petition.

#### **IV. CONCLUSION**

There are substantial public interest benefits to AT&T's proposed use of the WCS C and D block licenses for a smart grid deployment. Additionally, AT&T appears to have made a good faith effort to put the spectrum to use, particularly in light of the myriad technical and engineering challenges in the WCS band. There is good cause for the Commission to grant AT&T's Petition, with conditions, and doing so will likely serve the public interest.

Respectfully submitted,

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